

What is claimed is:

1. An implantable cardioverter-defibrillator for
subcutaneous positioning between the third rib and the
twelfth rib within a patient, the implantable cardioverter-
defibrillator comprising:

a housing, wherein at least a portion of the housing
is curved;

an electrical circuit; and

at least one electrically conductive surface
integrally positioned on at least one portion of the
housing, wherein the at least one electrically conductive
surface is coupled to the electrical circuit.

2. The implantable cardioverter-defibrillator of
claim 1, wherein the housing comprises an electrically
insulated material.

3. The implantable cardioverter-defibrillator of
claim 1, wherein the housing is pliable.

4. The implantable cardioverter-defibrillator of
claim 1, wherein the housing comprises a material that can
be sterilized.

5. The implantable cardioverter-defibrillator of claim 1, wherein the housing comprises a ceramic material.

6. The implantable cardioverter-defibrillator of claim 5, wherein the ceramic material is selected from the group consisting essentially of zirconia, alumina, silicon nitride, silicon carbide, titanium carbide, tungsten carbide, titanium nitride, silicon-aluminum oxy-nitride (sialon), graphite, titanium di-boride, boron carbide, zirconia toughened alumina, and molybdenum disilicide.

7. The implantable cardioverter-defibrillator of claim 6, wherein the zirconia is selected from the group consisting essentially of stabilized zirconia, partially stabilized zirconia, tetragonal zirconia, yttria-stabilized zirconia, magnesia-stabilized zirconia, ceria-stabilized zirconia, and calcia-stabilized zirconia.

8. The implantable cardioverter-defibrillator of claim 1, wherein the housing comprises a mixture of ceramic materials and titanium.

9. The implantable cardioverter defibrillator of claim 8, wherein the housing further comprises a first segment and a second segment, each segment having an

insulating plate at an end thereof, and a conductive plate coupled to the insulating plate, wherein the conductive plate of the first segment is coupled to the conductive plate of the second segment to form a unitary implantable device.

10. The implantable cardioverter-defibrillator of claim 9, wherein at least a portion of the first segment is curved.

11. The implantable cardioverter-defibrillator of claim 9, further wherein at least a portion of the second segment is curved.

12. The implantable cardioverter-defibrillator of claim 1, wherein the curved portion of the housing comprises a circular arc.

13. The implantable cardioverter-defibrillator of claim 1, wherein the curved portion of the housing comprises an elliptical arc.

14. The implantable cardioverter-defibrillator of claim 1, wherein the curved portion of the housing comprises a nonsymmetrical arc.

15. The implantable cardioverter-defibrillator of claim 11, wherein the curved portion of the second segment comprises a circular arc.

5 16. The implantable cardioverter-defibrillator of claim 11, wherein the curved portion of the second segment comprises an elliptical arc.

17. The implantable cardioverter-defibrillator of claim 11, wherein the curved portion of the second segment comprises a nonsymmetrical arc.

10 18. The implantable cardioverter-defibrillator of claim 9, wherein the second segment of the housing is substantially straight.

15 19. The implantable cardioverter-defibrillator of claim 9, wherein the first segment of the housing is contiguous with the second segment of the housing.

20. The implantable cardioverter-defibrillator of claim 9, wherein the first segment of the housing is disjointed with the second segment of the housing.

21. The implantable cardioverter-defibrillator of claim 9, wherein a hinge couples the first segment of the housing to the second segment of the housing.

22. The implantable cardioverter-defibrillator of claim 1, wherein the electrical circuit provides cardioversion-defibrillation energy for the patient's heart.

23. The implantable cardioverter-defibrillator of claim 22, wherein the electrical circuit further provides biphasic waveform cardiac pacing for the patient's heart.

24. The implantable cardioverter-defibrillator of claim 1, wherein the electrical circuit provides biphasic waveform cardiac pacing for the patient's heart.

25. The implantable cardioverter-defibrillator of claim 1, wherein the electrically conductive surface emits an energy for shocking the patient's heart.

26. The implantable cardioverter-defibrillator of claim 26, wherein the electrically conductive surface further receives sensory information.

27. The implantable cardioverter-defibrillator of claim 1, wherein the electrically conductive surface can receive sensory information.

28. A cardioverter-defibrillator comprising:

at least one electrode;

a housing having at least one curved portion, wherein the at least one electrode is integrally disposed in the at least one curved portion of the housing such that the at least one electrode is maintained in a predetermined relationship subcutaneously over a patient's ribs; and

a cardioversion-defibrillation circuitry located within the housing and coupled to the at least one electrode.

29. The cardioverter-defibrillator of claim 28, wherein the at least one electrode emits energy for shocking a patient's heart.

30. The cardioverter-defibrillator of claim 29, wherein at least one electrode further receives sensory information.

31. The cardioverter-defibrillator of claim 28,
wherein the at least one electrode receives sensory
information.

32. The cardioverter-defibrillator of claim 28,
wherein the housing is pliable.

33. The cardioverter-defibrillator of claim 28,
wherein the housing comprises a material that can be
sterilized.

34. The cardioverter-defibrillator of claim 28,
wherein the housing comprises a ceramic material.

35. The cardioverter-defibrillator of claim 34,
wherein the ceramic material is selected from the group
consisting essentially of zirconia , alumina, silicon
nitride, silicon carbide, titanium carbide, tungsten
carbide, titanium nitride, silicon-aluminum oxy-nitride
(sialon), graphite, titanium di-boride, boron carbide,
zirconia toughened alumina, and molybdenum disilicide.

36. The cardioverter-defibrillator of claim 35,
wherein the zirconia is selected from the group consisting
essentially of stabilized zirconia, partially stabilized
zirconia, tetragonal zirconia, yttria-stabilized zirconia,

magnesia-stabilized zirconia, ceria-stabilized zirconia,
and calcia-stabilized zirconia.

37. The cardioverter-defibrillator of claim 36,
wherein the housing comprises a mixture of ceramic
materials and titanium.

38. The implantable cardioverter defibrillator of
claim 28, wherein the housing further comprises a first
segment and a second segment, each segment having an
insulating plate at an end thereof, and a conductive plate
coupled to the insulating plate, wherein the conductive
plate of the first segment is coupled to the conductive
plate of the second segment to form a unitary implantable
device.

39. The cardioverter-defibrillator of claim 38,
wherein the at least one curved portion of the housing
comprises a circular arc.

40. The cardioverter-defibrillator of claim 28,
wherein the circular arc is approximately 1 radians to
approximately 180 radians in length.

41. The cardioverter-defibrillator of claim 40,
wherein the at least one curved portion of the housing
comprises an elliptical arc.

42. The cardioverter-defibrillator of claim 28,
wherein the at least one curved portion of the housing
comprises a nonsymmetrical arc.

43. The cardioverter-defibrillator of claim 28,
wherein the predetermined relationship is with respect to
the patient's heart.

44. The cardioverter-defibrillator of claim 28,
wherein the at least one curved portion of the housing
maintains the electrode subcutaneously over an area defined
between the patient's third rib and the patient's twelfth
rib.

45. The cardioverter-defibrillator of claim 28,
wherein the cardioversion-defibrillation circuitry further
provides waveform cardiac pacing for a patient's heart.

46. A subcutaneous cardioverter-defibrillator
comprising:

a housing having a top surface and a bottom surface,
wherein at least a portion of the bottom surface of the
housing is non planar;

an electrical circuit located within the housing; and

at least one electrode integrally positioned on a
portion of the housing, wherein the at least one electrode
couples to the electrical circuit, and further wherein the
electrode can provide an effective electric field for
myocardial cardioversion and defibrillation.

47. The subcutaneous cardioverter-defibrillator of
claim 46, wherein the housing comprises an electrically
insulated material.

48. The subcutaneous cardioverter-defibrillator of
claim 46, wherein the housing is pliable.

49. The subcutaneous cardioverter-defibrillator of
claim 46, wherein the housing comprises a material that can
be sterilized.

50. The subcutaneous cardioverter-defibrillator of
claim 46, wherein the housing comprises a ceramic material.

51. The subcutaneous cardioverter defibrillator of
claim 50, wherein the ceramic material is selected from the

group consisting essentially of zirconia, alumina, silicon
nitride, silicon carbide, titanium carbide, tungsten
carbide, titanium nitride, silicon-aluminum oxy-nitride
(sialon), graphite, titanium di-boride, boron carbide,
5 zirconia toughened alumina, and molybdenum disilicide.

52. The cardioverter-defibrillator of claim 51,
wherein the zirconia is selected from the group consisting
essentially of stabilized zirconia, partially stabilized
zirconia, tetragonal zirconia, yttria-stabilized zirconia,
10 magnesia-stabilized zirconia, ceria-stabilized zirconia,
and calcia-stabilized zirconia.

53. The subcutaneous cardioverter-defibrillator of
claim 46, wherein the housing comprises a mixture of
ceramic and titanium.

15 54. The subcutaneous cardioverter-defibrillator of
claim 53, wherein the housing further comprises a first
segment and a second segment, each segment having an
insulating plate at an end thereof, and a conductive plate
coupled to the insulating plate, wherein the conductive
20 plate of the first segment is coupled to the conductive
plate of the second segment to form a unitary implantable
device.

55. The subcutaneous cardioverter-defibrillator of claim 46, wherein the portion of the bottom surface of the housing being non planar comprises a circular arc.

5 56. The subcutaneous cardioverter-defibrillator of claim 46, wherein the portion of the bottom surface of the housing being non planar comprises an elliptical arc.

57. The subcutaneous cardioverter-defibrillator of claim 46, wherein the portion of the bottom surface of the housing being non planar comprises a nonsymmetrical arc.

10 58. The subcutaneous cardioverter-defibrillator of claim 46, wherein the bottom surface of the housing is substantially smooth.

15 59. The subcutaneous cardioverter-defibrillator of claim 46, wherein the bottom surface of the housing is larger than the top surface of the housing.

60. The subcutaneous cardioverter-defibrillator of claim 46, wherein a portion of the top surface of the housing is substantially planar.

61. The subcutaneous cardioverter-defibrillator of claim 46, wherein a portion of the top surface of the housing is substantially non planar.

5 62. The subcutaneous cardioverter-defibrillator of claim 61, wherein the portion of the top surface of the housing being non planar comprises a circular arc.

63. The subcutaneous cardioverter-defibrillator of claim 61, wherein the portion of the top surface of the housing being non planar comprises an elliptical arc.

10 64. The subcutaneous cardioverter-defibrillator of claim 61, wherein the portion of the top surface of the housing being non planar comprises a nonsymmetrical arc.

15 65. The subcutaneous cardioverter-defibrillator of claim 46, wherein the top surface of the housing is substantially smooth.

20 66. The subcutaneous cardioverter-defibrillator of claim 46, wherein the bottom surface further comprises a proximal end and a distal end, wherein an electrode is integrally positioned at the proximal end of the bottom surface.

67. The subcutaneous cardioverter-defibrillator of claim 66, wherein a second electrode is integrally positioned at the distal end of the bottom surface.

5 68. The subcutaneous cardioverter-defibrillator of claim 46, wherein the electrical circuit can provide cardioversion-defibrillation energy for the patient's heart.

69. The subcutaneous cardioverter-defibrillator of claim 68, wherein the electrical circuit further provides biphasic waveform cardiac pacing for the patient's heart.
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70. The subcutaneous cardioverter-defibrillator of claim 46, wherein the electrical circuit provides biphasic waveform cardiac pacing for the patient's heart.

15 71. The subcutaneous cardioverter-defibrillator of claim 46, wherein the at least one electrode emits an energy for treating the patient's heart.

72. The subcutaneous cardioverter-defibrillator of claim 71, wherein the at least one electrode further receives sensory information.

73. The subcutaneous cardioverter-defibrillator of claim 46, wherein the at least one electrode receives sensory information.

74. An implantable cardioverter-defibrillator for subcutaneous positioning between the third rib and the twelfth rib within a patient, the implantable cardioverter-defibrillator comprising:

a nonconductive housing, wherein at least a portion of the housing is curved;

an electrical circuit; and

at least one electrically conductive surface integrally positioned on at least one portion of the nonconductive housing, wherein the at least one electrically conductive surface is coupled to the electrical circuit.

75. The implantable cardioverter-defibrillator of claim 74, wherein the housing is pliable.

76. The implantable cardioverter-defibrillator of claim 74, wherein the housing comprises a nonconductive material that can be sterilized.

77. The implantable cardioverter-defibrillator of claim 74, wherein the housing comprises a ceramic material.

78. The implantable cardioverter-defibrillator of claim 77, wherein the ceramic material is selected from the group consisting essentially of zirconia , alumina, silicon nitride, silicon carbide, titanium carbide, tungsten carbide, titanium nitride, silicon-aluminum oxy-nitride (sialon), graphite, titanium di-boride, boron carbide, zirconia toughened alumina, and molybdenum disilicide.

79. The implantable cardioverter-defibrillator of claim 78, wherein the zirconia is selected from the group consisting essentially of stabilized zirconia, partially stabilized zirconia, tetragonal zirconia, yttria-stabilized zirconia, magnesia-stabilized zirconia, ceria-stabilized zirconia, and calcia-stabilized zirconia.

80. The implantable cardioverter-defibrillator of claim 74, wherein the curved portion of the housing comprises a circular arc.

81. The implantable cardioverter-defibrillator of claim 74, wherein the curved portion of the housing comprises an elliptical arc.

82. The implantable cardioverter-defibrillator of claim 74, wherein the curved portion of the housing comprises a nonsymmetrical arc.

83. The implantable cardioverter-defibrillator of claim 74, wherein the electrical circuit can provide cardioversion-defibrillation energy for the patient's heart.

84. The implantable cardioverter-defibrillator of claim 83, wherein the electrical circuit can further provide biphasic waveform cardiac pacing for the patient's heart.

85. An implantable cardioverter-defibrillator for subcutaneous positioning between the third rib and the twelfth rib within a patient, the implantable cardioverter-defibrillator comprising:

a housing comprising a mixture of conductive and nonconductive materials wherein at least a portion of the housing is curved;

an electrical circuit; and

at least one electrode integrally positioned on at least one portion of the housing, wherein the at least one electrode is coupled to the electrical circuit.

86. The implantable cardioverter-defibrillator of claim 85, wherein the housing comprises a mixture of ceramic materials and titanium.

5 87. The implantable cardioverter defibrillator of claim 85, wherein the housing further comprises a first segment and a second segment, each segment having an insulating plate at an end thereof, and a conductive plate coupled to the insulating plate, wherein the conductive plate of the first segment can be coupled to the conductive plate of the second segment to form a unitary implantable device.

10 88. The implantable cardioverter-defibrillator of claim 87, wherein at least a portion of the first segment is curved.

15 89. The implantable cardioverter-defibrillator of claim 87, wherein at least a portion of the second segment is curved.

20 90. The implantable cardioverter-defibrillator of claim 85, wherein the curved portion of the housing comprises a circular arc.

91. The implantable cardioverter-defibrillator of
claim 85, wherein the curved portion of the housing
comprises an elliptical arc.

5 92. The implantable cardioverter-defibrillator of
claim 85, wherein the curved portion of the housing
comprises a nonsymmetrical arc.

93. The implantable cardioverter-defibrillator of
claim 87, wherein the curved portion of the second segment
comprises a circular arc.

10 94. The implantable cardioverter-defibrillator of
claim 87, wherein the curved portion of the second segment
comprises an elliptical arc.

15 95. The implantable cardioverter-defibrillator of
claim 87, wherein the curved portion of the second segment
comprises a nonsymmetrical arc.

96. The implantable cardioverter-defibrillator of
claim 87, wherein the second segment of the housing is
substantially straight.

97. The implantable cardioverter-defibrillator of claim 87, wherein the first segment of the housing is contiguous with the second segment of the housing.

5 98. The implantable cardioverter-defibrillator of claim 87, wherein the first segment of the housing is disjointed with the second segment of the housing.

99. The implantable cardioverter-defibrillator of claim 87, wherein a hinge couples the first segment of the housing to the second segment of the housing.

10 100. The implantable cardioverter-defibrillator of claim 85, wherein the electrical circuit provides cardioversion-defibrillation energy for the patient's heart.

15 101. The implantable cardioverter-defibrillator of claim 100, wherein the electrical circuit further provides biphasic waveform cardiac pacing for the patient's heart.

102. The implantable cardioverter-defibrillator of claim 85, wherein the electrical circuit provides biphasic waveform cardiac pacing for the patient's heart.

103. The implantable cardioverter-defibrillator of claim 85, wherein the at least one electrode can emit an energy for treating the patient's heart.

5 104. The implantable cardioverter-defibrillator of claim 103, wherein the at least one electrode can further receive sensory information.

105. The implantable cardioverter-defibrillator of claim 85, wherein the at least one electrode can receive sensory information.

10 106. A cardioverter-defibrillator comprising:
at least one electrode;
a nonconductive housing wherein the at least one electrode is integrally disposed on the housing such that the at least one electrode is maintained in a predetermined relationship subcutaneously over a patient's ribs; and
15 a cardioversion-defibrillation circuitry located within the housing and coupled to the at least one electrode.

20 107. The cardioverter-defibrillator of claim 106, wherein the at least one electrode can emit an energy for treating a patient's heart.

108. The cardioverter-defibrillator of claim 107,
wherein the at least one electrode can further receive
sensory information.

109. The cardioverter-defibrillator of claim 106,
wherein the at least one electrode can receive sensory
information.

110. The cardioverter-defibrillator of claim 106,
wherein the housing is pliable.

111. The cardioverter-defibrillator of claim 106,
wherein the nonconductive housing comprises a material that
can be sterilized.

112. The cardioverter-defibrillator of claim 106,
wherein the nonconductive housing comprises a ceramic
material.

113. The cardioverter-defibrillator of claim 112,
wherein the ceramic material is selected from the group
consisting essentially of zirconia, alumina, silicon
nitride, silicon carbide, titanium carbide, tungsten
carbide, titanium nitride, silicon-aluminum oxy-nitride
(sialon), graphite, titanium di-boride, boron carbide,
zirconia toughened alumina, and molybdenum disilicide.

114. The cardioverter-defibrillator of claim 113,
wherein the zirconia is selected from the group consisting
essentially of stabilized zirconia, partially stabilized
zirconia, tetragonal zirconia, yttria-stabilized zirconia,
5 magnesia-stabilized zirconia, ceria-stabilized zirconia,
and calcia-stabilized zirconia.

115. The cardioverter-defibrillator of claim 106,
wherein the predetermined relationship is with respect to
the patient's heart.

116. The cardioverter-defibrillator of claim 106,
wherein the at least one electrode is maintained
subcutaneously over an area defined between the patient's
third rib and the patient's twelfth rib.

117. The cardioverter-defibrillator of claim 106,
15 wherein the cardioversion-defibrillation circuitry further
provides cardiac pacing for a patient's heart.

118. A cardioverter-defibrillator comprising:
at least one electrode;
a housing comprising a mixture of conductive and
20 nonconductive materials wherein the at least one electrode
is integrally disposed in the housing such that the at

least one electrode is maintained in a predetermined
relationship subcutaneously over a patient's ribs; and
a cardioversion-defibrillation circuitry located
within the housing and coupled to the at least one
5 electrode.

119. The cardioverter-defibrillator of claim 118,
wherein the at least one electrode emits an energy for
shocking a patient's heart.

120. The cardioverter-defibrillator of claim 119,
wherein the at least one electrode further receives sensory
10 information.

121. The cardioverter-defibrillator of claim 118,
wherein the at least one electrode receives sensory
information.

15 123. The cardioverter-defibrillator of claim 118,
wherein the housing is pliable.

124. The cardioverter-defibrillator of claim 118,
wherein the housing comprises a material that can be
sterilized.

125. The cardioverter-defibrillator of claim 118,
wherein the housing comprises a mixture of ceramic
materials and titanium.

5 126. The implantable cardioverter defibrillator of
claim 125, wherein the housing further comprises a first
segment and a second segment, each segment having an
insulating plate at an end thereof, and a conductive plate
coupled to the insulating plate, wherein the conductive
plate of the first segment is coupled to the conductive
10 plate of the second segment to form a unitary implantable
device.

127. The cardioverter-defibrillator of claim 118,
wherein the predetermined relationship is with respect to
the patient's heart.

15 128. The cardioverter-defibrillator of claim 118,
wherein the electrode is maintained subcutaneously over an
area defined between the patient's third rib and the
patient's twelfth rib.

20 129. The cardioverter-defibrillator of claim 118,
wherein the cardioversion-defibrillation circuitry further
provides cardiac pacing for a patient's heart.

130. A subcutaneous cardioverter-defibrillator
comprising:

a nonconductive housing having a top surface and a
bottom surface;

5 an electrical circuit located within the housing; and
at least one electrode integrally positioned on a
portion of the housing, wherein the at least one electrode
couples to the electrical circuit, and further wherein the
electrode can provide an approximately 5 V/cm electric
10 field to approximately 90 percent of a ventricular
myocardium.

131. The subcutaneous cardioverter-defibrillator of
claim 130, wherein the housing is pliable.

132. The subcutaneous cardioverter-defibrillator of
15 claim 130, wherein the housing comprises a material that
can be sterilized.

133. The subcutaneous cardioverter-defibrillator of
claim 130, wherein the housing comprises a ceramic
material.

20 134. The subcutaneous cardioverter defibrillator of
claim 133, wherein the ceramic material is selected from

the group consisting essentially of zirconia , alumina,
silicon nitride, silicon carbide, titanium carbide,
tungsten carbide, titanium nitride, silicon-aluminum oxy-
nitride (sialon), graphite, titanium di-boride, boron
carbide, zirconia toughened alumina, and molybdenum
disilicide.

135. The cardioverter-defibrillator of claim 134,
wherein the zirconia is selected from the group consisting
essentially of stabilized zirconia, partially stabilized
zirconia, tetragonal zirconia, yttria-stabilized zirconia,
magnesia-stabilized zirconia, ceria-stabilized zirconia,
and calcia-stabilized zirconia.

136. The subcutaneous cardioverter-defibrillator of
claim 130, wherein a portion of the top surface of the
housing is substantially planar.

137. The subcutaneous cardioverter-defibrillator of
claim 130, wherein a portion of the top surface of the
housing is substantially non planar.

138. The subcutaneous cardioverter-defibrillator of
claim 137, wherein the portion of the top surface of the
housing being non planar comprises a circular arc.

139. The subcutaneous cardioverter-defibrillator of claim 137, wherein the portion of the top surface of the housing being non planar comprises an elliptical arc.

5 140. The subcutaneous cardioverter-defibrillator of claim 137, wherein the portion of the top surface of the housing being non planar comprises a nonsymmetrical arc.

141. The subcutaneous cardioverter-defibrillator of claim 137, wherein the top surface of the housing is substantially smooth.

10 142. The subcutaneous cardioverter-defibrillator of claim 130, wherein the bottom surface further comprises a proximal end and a distal end, wherein an electrode is integrally positioned at the proximal end of the bottom surface.

15 143. The subcutaneous cardioverter-defibrillator of claim 142, wherein a second electrode is integrally positioned at the distal end of the bottom surface.

20 144. The subcutaneous cardioverter-defibrillator of claim 130, wherein the electrical circuit provides cardioversion-defibrillation energy for the patient's heart.

145. The subcutaneous cardioverter-defibrillator of claim 144, wherein the electrical circuit further provides biphasic waveform cardiac pacing for the patient's heart.

146. The subcutaneous cardioverter-defibrillator of claim 130, wherein the electrical circuit provides biphasic waveform cardiac pacing for the patient's heart.

147. The subcutaneous cardioverter-defibrillator of claim 130, wherein the at least one electrode emits an energy for treating the patient's heart.

148. The subcutaneous cardioverter-defibrillator of claim 147, wherein the at least one electrode further receives sensory information.

149. The subcutaneous cardioverter-defibrillator of claim 130, wherein the at least one electrode receives sensory information.

150. A subcutaneous cardioverter-defibrillator comprising:

a housing comprising a mixture of conductive and nonconductive materials, the housing having a top surface and a bottom surface;

an electrical circuit located within the housing; and

at least one electrode integrally positioned on a
portion of the housing, wherein the at least one electrode
couples to the electrical circuit, and further wherein the
electrode can provide an effective electric field to treat
the myocardium.

151. The subcutaneous cardioverter-defibrillator of
claim 150, wherein the housing is pliable.

152. The subcutaneous cardioverter-defibrillator of
claim 150, wherein the housing comprises a material that
can be sterilized.

153. The subcutaneous cardioverter-defibrillator of
claim 150, wherein the housing comprises a mixture of
ceramic and titanium.

154. The subcutaneous cardioverter-defibrillator of
claim 150, wherein the housing further comprises a first
segment and a second segment, each segment having an
insulating plate at an end thereof, and a conductive plate
coupled to the insulating plate, wherein the conductive
plate of the first segment is coupled to the conductive
plate of the second segment to form a unitary implantable
device.

155. The subcutaneous cardioverter-defibrillator of claim 150, wherein the bottom surface of the housing is substantially smooth.

5 156. The subcutaneous cardioverter-defibrillator of claim 150, wherein the top surface of the housing is substantially smooth.

157. The subcutaneous cardioverter-defibrillator of claim 150, wherein the bottom surface further comprises a proximal end and a distal end, wherein an electrode is integrally positioned at the proximal end of the bottom surface.

158. The subcutaneous cardioverter-defibrillator of claim 157, wherein a second electrode is integrally positioned at the distal end of the bottom surface.

15 159. The subcutaneous cardioverter-defibrillator of claim 150, wherein the electrical circuit can provide cardioversion-defibrillation energy for the patient's heart.

20 160. The subcutaneous cardioverter-defibrillator of claim 159, wherein the electrical circuit further provides biphasic waveform cardiac pacing for the patient's heart.

161. The subcutaneous cardioverter-defibrillator of claim 150, wherein the electrical circuit provides cardiac pacing for the patient's heart.

5 162. The subcutaneous cardioverter-defibrillator of claim 150, wherein the at least one electrode emits an energy for treating the patient's heart.

163. The subcutaneous cardioverter-defibrillator of claim 162, wherein the at least one electrode further receives sensory information.

10 164. The subcutaneous cardioverter-defibrillator of claim 150, wherein the at least one electrode receives sensory information.